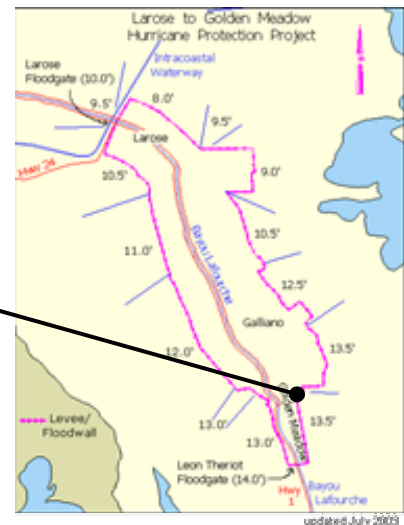
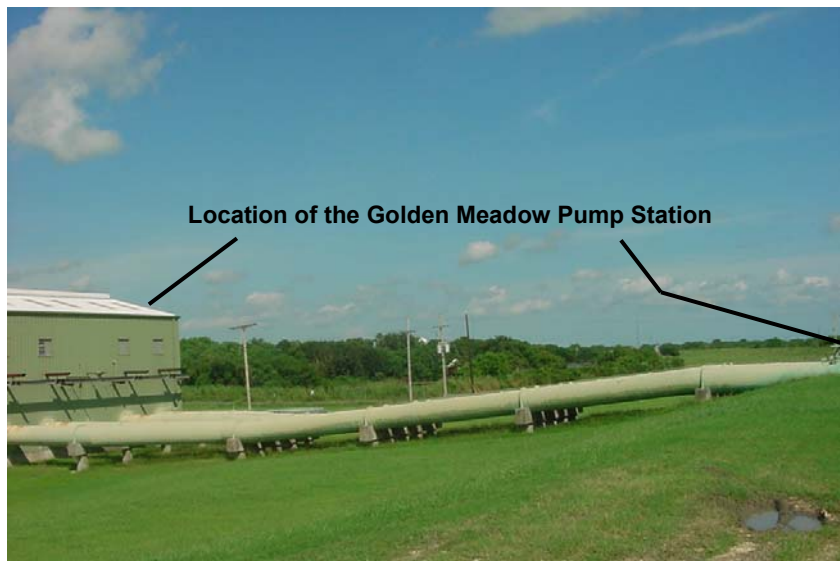




A Picture is Worth a Thousand Words: Keeping Up With the Surge!

Most populated areas within the Barataria-Terrebonne estuary are protected against hurricane storm surges by levees. To prevent flooding, runoff from rural and agricultural areas is collected in a borrow canal that is located just inside the levee system. Storm runoff waters are pumped over the levee system into adjacent wetland areas by a series of stormwater pump stations. Over 250 pump stations operate to keep the populated areas within the Barataria-Terrebonne estuary dry. These pump stations discharge stormwater into large, ponded areas in the surrounding coastal marshes and then into a system of human-made canals to ensure that stormwater is moved away from the levee area as quickly as possible. This redirected stormwater flows directly to high-salinity bays, often through some of Louisiana's prime oyster growing waters. Redirecting discharges so that they are retained in adjacent wetlands may (1) help to maintain lower local salinities, (2) provide a source of sediments to subsiding wetland areas, and (3) support plant growth.

In the photograph below, you see the Golden Meadow pump station that is featured in *Estuary LIVE 2003*. The pump station has five large pumps that carry water from within the hurricane protection levee system and empty it out into the surrounding coastal marshes.



The five pumps at the Golden Meadow Pump Station #1 can pump out a total of 235,000 gallons of water per minute from within the levee system. These pumps are turned on during large thunderstorms, tropical storms and hurricanes.

- Let's say that a big thunderstorm came along and the pumps at Golden Meadow Pump Station #1 had to be turned on for 15 minutes. How many gallons of water can Golden Meadow Pump Station #1 remove from within the levee system in 15 minutes? That's a lot of water! But how much water is it really?

Let's use a football field to help us visualize how much water that really is! A regulation football field is 300 feet long (goal line to goal line) and 160 feet wide. It takes about 7.5 gallons of water to fill up one cubic foot.

1 cubic foot \approx 7.5 gallons

- Step 1. Figure out how many cubic feet of water was pumped out of the levee system in 15 minutes. To do this, divide the total amount of water pumped out (in gallons) by 7.5 gallons/cubic foot. This will give the total number of cubic feet that the water will occupy.
- Step 2. Figure out how many cubic feet of water a football field can hold if the water was one foot deep across the whole field from goal line to goal line. To do this, multiply the length of the football field by the width of the football field by the depth of the football field.

Step 3. Figure out how deep the water will stand on the football field. To do this take your answer from Step 1 and divide it by your answer from Step 2. Your answer will tell you how high the water will stand on the football field after just a 15-minute thunderstorm.

